

**LITHOGRAPHIC APPARATUS WITH ALIGNMENT SUBSYSTEM,  
DEVICE MANUFACTURING METHOD, AND DEVICE  
MANUFACTURED THEREBY**

**ABSTRACT OF THE DISCLOSURE**

A lithographic apparatus according to one embodiment of the invention includes an alignment subsystem configured to align the substrate on the substrate table relative to the patterning structure. The alignment structure comprises a non-periodic feature which may be detectable as e.g. a capture position or a check position using a reference grating in the alignment subsystem. The non-periodic feature may cause a phase effect in the detected signal of the alignment subsystem or an amplitude effect.